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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,691	02/10/2004	Tuomo Lehtonen	59244.00009	7362
32294	7590	06/01/2005	EXAMINER	
SQUIRE, SANDERS & DEMPSEY L.L.P.			CHAPMAN JR, JOHN E	
14TH FLOOR			ART UNIT	
8000 TOWERS CRESCENT			PAPER NUMBER	
TYSONS CORNER, VA 22182			2856	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

8m

Office Action Summary	Application No. 10/774,691	Applicant(s) LEHTONEN, TUOMO	
	Examiner John E. Chapman	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/6/04; 9/2/04</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. The drawings are objected to because Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). In addition, reference numerals should be provided in Figures 6, 7, 8 9, 10 and 11.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 1-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is not clear what is meant by each pair of electrodes comprising an axis of rotation “essentially forming a common axis” in line 6. Common with respect to what? An axis of rotation 7 is illustrated in Fig. 1 and it does not appear to be common with any other axis. Nor do any of the axes of rotation in the embodiments of Figures 5, 6, 7, 8 9, 10 and 11 appear to be common.

Claim 3 is vague and indefinite. It is not clear what is meant by being “suitable in relation to the number of pairs of electrodes.” Suitable for what purpose?

Dependent claims 4-9 appear to contradict claim 1. Claim 1 recites “several pairs of electrodes” in line 11, whereas claims 4-9 recite two or more. The common meaning of “several” is “more than two but fewer than many.” Insofar as applicant intends “several” to mean “two or more,” it is contrary to common usage.

Regarding claim 31, there is insufficient structure recited to support the intended use of “linearization of the change in capacitance.” Claim 31 is directed to a method of using the pairs of electrodes of the acceleration sensor and not to the structure of the acceleration sensor.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-8, 10-15 and 30, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Negoro.

Negoro discloses a capacitive acceleration sensor in Fig. 8A comprising several acceleration detection devices 1A, 1B and 1C, each acceleration detection device comprising a movable electrode 7' and a stationary plate 8' in Fig. 2.

Regarding claims 4-8, note Fig. 6 of Negoro.

Regarding claim 30, electrode pairs (7'A, 8'A) and (7'B, 8'B) in Fig. 6 are redundant with respect to acceleration in the Y direction.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 17-28 and 31, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Negoro.

Regarding claims 17-28, Negoro teaches forming a capacitive acceleration sensor using N acceleration detection devices, where $N \geq 3$ (column 14, lines 19-29). It would have been obvious to one of ordinary skill in the art to choose $N=4$ or 8. Where the prior art discloses a range of values (such as, $N \geq 3$), and there is no showing of criticality of the recited range (such as, $N=4$ or 8), such recited range is generally considered to be obvious to one of ordinary skill in the art. See *In re Reven*, 390 F.2d 997, 156 USPQ 679 (CCPA 1968).

Regarding claim 31, it is well known within the art to provide linearization in order that the output signal is proportional to the input acceleration.

8. Claims 9, 16 and 29, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Negoro in view of Cole.

Regarding claims 9 and 16, the only apparent difference between the claimed invention and the prior art consists in supporting the beams 4A and 4B at a central position 12 in Fig. 4 in lieu of the outer positions 6. Cole discloses a pair of beams 148 and 150 centrally supported by pedestal 146. It would have been obvious to one of ordinary skill in the art to support the beams 4A and 4B of Negoro at a central position 12 in Fig. 4 in lieu of the outer positions 6, which difference would have been an obvious rearrangement of elements in view of Cole. The mere reversal of components in a prior art reference, where there is no disclosed significance to such reversal, is generally considered to be a design consideration within the skill of the art. See *In re Gazda*, 219 F.2d 449, 104 USPQ 400 (CCPA 1955); *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).


Regarding claim 29, Cole teaches forming the beams 148 and 150 such that the beams have different moments about the pedestal, i.e., such that they measure different ranges of acceleration.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John E. Chapman whose telephone number is (571) 272-2191. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron

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Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John E Chapman
Primary Examiner
Art Unit 2856